

Case CM-1550

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the matter of

U.S. National Phase Entry  
Under 35 USC 371 from  
the International Application of  
HERBOTS, Ivan Maurice Alfons Jan et al  
Int'l Application No. PCT/US97/12445  
Filed in the RO/US on 09 July 1997  
Entitled: Cleaning Compositions Comprising  
An Oxidoreductase



PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Box PCT  
Washington, D.C. 20231

Dear Sir:

Before computing the fees for entering the captioned International Application into the U.S. National Phase, please enter the following amendments **IN THE CLAIMS**:

Please cancel Claims 2 thru 26.

Please add the following new claims:

27. A cleaning composition according to claim 1 wherein said oxidoreductase is present at a level of from about 0.0001% to about 2% pure enzyme by weight of total composition.
28. A cleaning composition according to claim 27 wherein said oxidoreductase is present at a level of from about 0.001% to about 1% pure enzyme by weight of total composition.
29. A cleaning composition according to claim 28 wherein said oxidoreductase is present at a level of from about 0.005% to about 0.1% pure enzyme by weight of total composition.
30. A cleaning composition according to claim 1 wherein said oxidoreductase is obtained from the strain *Serratia marcescens*.
31. A cleaning composition according to claim 1 wherein the organic acid is comprised at a level of from 0.1% to 50% by weight of total composition.
32. A cleaning composition according to claim 32 wherein the organic acid is comprised at a level of from 0.5% to 40% by weight of total composition.
33. A cleaning composition according to claim 33 wherein the organic acid is comprised at a level of from 1% to 20% by weight of total composition.

34. A cleaning composition according to claim 1 wherein said organic acid is a monocarboxylic acid of the formula  $RnH(n+1)COOH$  wherein  $n = 1-18$ .
35. A cleaning composition according to claim 34 wherein said organic acid is a monocarboxylic acid of the formula  $RnH(n+1)COOH$  wherein  $n = 2-14$ .
36. A cleaning composition according to claim 35 wherein said organic acid is a monocarboxylic acid of the formula  $RnH(n+1)COOH$  wherein  $n = 2-9$ .
37. A cleaning composition according to claim 34 wherein said organic acid is selected from the group consisting of acetic acid, propionic acid, nonanoic acid, lauric acid, their corresponding sodium salts and/or mixtures thereof.
38. A cleaning composition according to claim 1 wherein said hydrogen peroxide source generates hydrogen peroxide in the wash solution at a level of from about 0.0001 - about 10 mmoles.
39. A cleaning composition according to claim 38 wherein said hydrogen peroxide source generates hydrogen peroxide in the wash solution at a level of from about 0.0001 - about 2 mmoles.
40. A cleaning composition according to claim 39 wherein said hydrogen peroxide source generates hydrogen peroxide in the wash solution at a level of from about 0.0001 - about 0.3 mmoles.
41. A cleaning composition according to claim 45 wherein said level of hydrogen peroxide are maintained with a controlled releasing system.
42. A cleaning composition according to claim 1 wherein said hydrogen peroxide source is selected from the group consisting of perborate, percarbonate and/or mixtures thereof.
43. A cleaning composition according to claim 1 wherein said hydrogen peroxide source is an enzymatic hydrogen peroxide generating system.
44. A cleaning composition according to claim 1 wherein said hydrogen peroxide source is selected from the group consisting of a glucose/glucose oxidase, a lactate/lactate oxidase system, and/or mixtures thereof.
45. A cleaning composition according to claim 1 further comprising a detergent enzyme.
46. A cleaning composition according to claim 47 wherein said detergent enzyme is selected from the group consisting of cellulase, lipase, protease, amylase and/or mixtures thereof.

47. A cleaning composition according to claim 1 further comprising another bleach system.
48. A cleaning composition according to claim 47 wherein said bleach system is a conventional activated bleach system.
49. A cleaning composition according to claim 48 wherein the bleaching agent is selected from the group consisting of perborate, percarbonate and/or mixtures thereof and the activator selected from the group consisting of tetraacetyl ethylenediamine, nonanoyloxybenzenesulfonate, 3,5,-trimethyl-hexanotoxybenzenesulfonate, and/or mixtures thereof.
50. A cleaning composition according to claim 47 wherein said bleach system is another enzymatic bleach system.
51. A cleaning composition according to claim 47 wherein said bleach system is a metallo catalyst based bleach system.
52. A cleaning composition according to claim 51 wherein said metallo catalyst is a transition metal complex of a macropolycyclic rigid ligand.
53. A cleaning composition according to claim 26 wherein said metallo catalyst is manganese.
54. A cleaning composition according to claim 1 wherein said oxidoreductase is alkaline.
55. A cleaning composition according to claim 1 which is in the form of an additive.
56. A fabric softening composition comprising
  - a) a surfactant system comprising a cationic surfactant comprising two long chain lengths,
  - b) an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid,
  - c) a hydrogen peroxide source and
  - d) an organic acid.
57. A method of cleaning comprising the step of contacting a fabric with a cleaning composition comprising a surfactant system, an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid, a hydrogen peroxide source and an organic acid, for fabric cleaning and/or fabric stain removal and/or fabric whiteness maintenance and/or fabric softening and/or fabric colour appearance and/or fabric dye transfer inhibition.

- 58 A method of cleaning comprising the step of contacting a hard surface such as a floor, a wall, a bathroom tile and the like, with a cleaning composition comprising a surfactant system, an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid, a hydrogen peroxide source and an organic acid.
59. A method of cleaning comprising the step of contacting a dishware with a cleaning composition comprising a surfactant system, an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid, a hydrogen peroxide source and an organic acid.
60. A method of cleaning teeth and/or mouth comprising the administration of a cleaning composition comprising a surfactant system, an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid, a hydrogen peroxide source and an organic acid.
61. A method of sanitisation comprising the step of contacting a fabric, a hard surface or a dishware with a cleaning composition comprising a surfactant system, an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid, a hydrogen peroxide source and an organic acid.
62. A method of sanitisation of teeth and/or mouth comprising the administration of a cleaning composition comprising a surfactant system, an oxidoreductase with an  $\alpha/\beta$ -hydrolase fold and a catalytic triad consisting of the amino acid residues serine, histidine and aspartic acid, a hydrogen peroxide source and an organic acid.

The support for these amendments is found in the claims as originally filed. These amendments are being entered to bring the claims into conformance with, *inter alia*, 37 CFR §1.75; no new matter is added.

Respectfully submitted for Applicants,

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